

REMARKS

In the Office Action of 01/26/2010, Examiner Edwards objected to claim 5 as not being dependent from an independent claim. Now, claim 5 depends from claim 1.

Examiner Edwards rejected claims 1-6 as being indefinite. In particular, Examiner Edwards asserts that even though a range of 0.7 to 0.9 for the ratio of  $r_1/r_2$  is provided (in claim 1), claim 1 is indefinite because it "does not clearly set forth the metes and bounds of the patent protection desired". That is, Examiner Edwards asserts that  $r_1$  and  $r_2$  are not specified.

Now, turning to dependent claim 4, claim 4 recites that the gap is within a range of 2 to 10 millimeters. The limitation of gap to 2 to 10 millimeters is also disclosed in the specification at page 22 line 33. This limitation of the gap is now incorporated in both claims 1 and 6.

Taking both the range of the ratio of  $r_1/r_2$  being within the range of 0.7 and 0.9, and the range of the gap being within 2 to 10 milliliters, the range of the individual values for  $r_1$  and  $r_2$ , respectively, are specified.

More specifically, since the gap =  $r_2-r_1$  (herein called

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Formula 1), by definition, is limited to the gap from 2 to 10 milliliters, in conjunction with the ratio  $r_1/r_2$ , gives definite specificity to  $r_1$  and  $r_2$ .

More specifically, :

ratio =  $r_1/r_2$ , wherein the ratio is between 0.7 and 0.9; and  
gap =  $r_2-r_1$ , wherein the gap is between 2 and 10 milliliters.

In this respect, using simple algebra to solve two equations with 2 variables yields a formula for  $r_2$ . That formula is

$r_2 = \text{gap}/(1-\text{ratio})$  (herein called Formula 2). More specifically, solving the two equations for the 2 variables, ratio =  $r_1/r_2$  implies  $r_1 = r_2 \cdot \text{ratio}$ . Also, gap =  $r_2-r_1$  implies  $r_1 = r_2-\text{gap}$ . Setting  $r_1=r_1$  implies  $r_2 \cdot \text{ratio} = r_2 - \text{gap}$ . Solving for  $r_2$ ,  $r_2 = \text{gap}/(1-\text{ratio})$ , herein called Formula 2.

Using Formula 2, below is a TABLE in which minimums and maximums of the ratio and the gap are selected, and the respective specific values of  $r_1$  and  $r_2$  are calculated.

TABLE

Ratio	Gap (mm)	r1 (mm)	r2 (mm)
0.7	2	4.67	6.67
0.7	10	23.31	33.3
0.9	2	18	20
0.9	10	90	100

From the TABLE above, it is clear that r1 ranges from 4.67 mm to 90 mm; and r2 ranges from 6.67 mm to 100 mm.

Generally, once a ratio (within the stated ratio range) and a gap (within the stated gap range) are selected, the values of both r1 and r2 are determined using Formula 2.

Also, generally, once values for two of the group of r1, r2, ratio, and gap are selected, values for the third and fourth of the group can be calculated using Formula 2.

More specifically, if r1 and r2 are known, then the ratio and the gap can be calculated. Conversely, if the ratio and the gap are known, then r1 and r2 can be calculated.

Alternatively, if r1 and the gap are known, then r2 and the ratio can be calculated. Conversely, if r2 and the ratio are known, then r1 and the gap can be calculated.

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Alternatively, if r2 and the gap are known, then r1 and the ratio can be calculated. Conversely, if r1 and the ratio are known, then r2 and the gap can be calculated.

Turning to claim 9, as indicated by Examiner Edwards, claim 9 would be allowable if it included the limitations of claim 8. In this respect, claim 9 now incorporates claim 8, and claim 8 is canceled.

Claims 7, 8, and 10 to 14 are canceled herein without prejudice or disclaimer. Therefore, there is no need herein to respond to the rejections of claims 7, 8, and 10-14.

No additional fee is required.

On the basis of the above amendment and remarks, reconsideration of the application is requested.

It appears that all matters have been addressed satisfactorily, and that the case is now in condition for a complete allowance; and the same is respectfully urged.

In view of the foregoing, it is respectfully requested that claims 1-6 and 9 be deemed allowable. If the Examiner believes otherwise, or has any comments or questions, or has any suggestions for putting the case in condition for final allowance, the Examiner is respectfully urged to contact the undersigned attorney of record at the telephone number below, so

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that an expeditious resolution may be effected and the case  
passed to issue promptly.

Respectfully submitted,

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Date

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